

REMARKS

By this Amendment, claim 1 is revised and claim 12 is canceled to place this application in immediate condition for allowance. Currently, claims 1-11 are before the Examiner for consideration on their merits.

Applicants also wish to thank Examiner Lazorcik for considering the draft claim proposal and arguments submitted on November 5, 2007. In this proposal, claim 1 was revised to clarify the applying of steam and the step of treating the glass matrix once it has been treated with steam. Any issues of indefiniteness that may have been present in the claims are now removed. Based on the discussion with Examiner Lazorcik, claim 1 is further clarified to make it clear that the applying step and the heating step for softening are two different steps. Support for this change is found in the specification, see pages 7 and 8.

First, Applicants wish to traverse the rejection of claims 2 and 3 based on new matter. In this rejection, the Examiner contends that the original disclosure does not support restricting the temperature and pressure around the ground glass surface. In review, the language at issue is as follows:

wherein said steam has a temperature ranging from 120 to 160°C
when being applied against the ground surface of the glass body.
(claim 3)

wherein said steam has a pressure ranging from 0.27 to 0.63 MPa
when being applied against the ground surface of the glass body.
(claim 4)

In traversing the new matter rejection, the Examiner's attention is directed to the paragraphs beginning on line 21 of page 5 and line 17 of page

6, respectively. In the first cited paragraph, it is stated:

The glass matrix, which is subjected to a next cleaning step, is obtained by using a cylindrical grinder for grinding a starting glass body made of silica to obtain a glass matrix having a given outer diameter as defined hereinabove.

In the paragraph on page 6, it is stated as follows:

Next, the glass matrix is applied with steam on the surface thereof in a manner as will be described with reference to the accompanying drawings.

The intervening disclosure between these two statements refers to the particulars of the grinding step and the chemicals used therewith. The key disclosure here is the statement that the matrix is applied with steam on the surface thereof. One question to answer here is what is the state of the matrix when considering that the application of steam is used with "Next". The only reasonable conclusion to draw from this is that the matrix is the ground matrix that is just previously described in the application. The next processing after the grinding is the application of steam. It can only be concluded that the steam application is to the ground surface of the matrix since the matrix has just been previously ground.

While the Examiner alleges that the claimed language of "applied against the ground surface" as not being explicitly supported by the original disclosure, the statement quoted above from page 6 says this exact thing.

In addition, there is no other description of using steam in the disclosure other than on the ground surface of the matrix. Therefore, if the Applicants cannot claim the steam temperature and pressure in connection with the

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steam contact with the ground surface, how could such parameters be ever recited in the claims?

In fact, the steam temperature and pressure conditions with the ground surface of the glass matrix are the very heart of the invention. That is, Applicants have discovered that applying pressurized steam against the glass matrix obtained after grinding accomplishes cleaning without the problems created when water and glass come into mutual contact.

As described in the specification, the paragraph beginning on line 3; the combination of moisture and glass bodies is not favorable. This is because if moisture is left absorbed on the rod, the final optical fiber can be compromised and defects can occur. This problem is solved by practicing the invention and conducting a cleaning step after grinding using pressurized steam. Put another way, the ground glass is effectively cleaned without the risk of moisture absorption in the glass matrix and a later compromise of the glass optical properties.

In light of the arguments above, it is submitted that claims 2 and 3 meet the written description requirement and the rejection based on an introduction of new matter should be withdrawn.

Turning now to the prior art rejection, the Examiner continues to insist that claims 1, 4-6, and 9-11 are obvious under 35 U.S.C. § 103(a) based on Lipp and the admitted prior art. In making this rejection, the Examiner has characterized the issue as a modification of the prior art process by "applying pressurized steam to surfaces of said glass body." The Examiner cites Lipp for

the proposition that it is known to apply steam to a glass body and therefore concludes that it would be obvious to do so in the method of the admitted prior art.

The problem with this approach is two fold. First, the characterization of the difference between the admitted prior art and the invention is oversimplified. The invention is not the use of steam in any aspect of the prior art process, but the particular application of pressurized steam after the grinding step of the prior art process. Thus, the difference between the invention and the prior art is in this context, not just the application of steam in a method of making glass rods. Therefore the question of obviousness is whether Lipp provides the reasoning to apply steam to the surface of the ground glass matrix in a step that is not part of the drawing processing steps.

Put another way, does Lipp provide the rationale to apply steam to the surface of the glass matrix after it has been ground but before it is heated for drawing. As mentioned above, the inventive processing step provides significant improvements in being able to clean the glass matrix without compromising the final product's end properties.

Turning now to Lipp, the problem here is that the Examiner makes an unwarranted extension of the teachings of Lipp so as to support the conclusion of obviousness. It is absolutely clear that Lipp does not teach application of steam to a ground surface. In fact, Lipp is concerned with an entirely different concept than the invention. As stated in col. 1, lines 53-62, Lipp makes use of the additional provision of means of introducing steam or water vapor into the

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atmosphere surrounding the glass being formed. This change in atmosphere materially improves the strength of the freshly drawn glass and allows the same to be drawn at low temperatures and high speed, where it would otherwise fail or break during such forming operation. It will be apparent from the above that this new concept is to apply water vapor or steam to glass only in the drawing operation. In doing so, the glass being formed is avoided from failing or breaking. The application of water vapor or steam allows the glass surface to expand more freely without the development of high stress and accordingly the breakages as set out at col. 2, last line to col. 3, line 2 of Lipp.

The Lipp contribution to the art is the use of steam or water vapor during the drawing operation. The Examiner takes this contribution and extends it to conclude that it would be obvious to take steam or water vapor and apply it in a non-drawing environment or the post grinding phase of the prior art process. This extension is pure speculation on the Examiner's part and cannot form the basis for a rejection under 35 U.S.C. § 103(a). Put another way, Lipp does not teach that steam is beneficial in all aspects of a glass making operation. Instead, Lipp says that steam is beneficial when used in conjunction with the drawing operation. There is no mention whatsoever of application of steam after a grinding operation as is required in claim 1. Therefore, Applicants strenuously submit that the Lipp does not provide the rationale to modify the admitted prior art process and a *prima facie* case of obviousness has not been established by the Examiner.

The rejection of claims 2 and 3 based on Charles is also traversed. Charles teaches a method of treating a line soda bottle glass body, which comprises providing an atmosphere containing 80% to 100% saturated steam and maintaining the atmosphere in a temperature range of about 190 °C to 230 °C and subjecting the body to the atmosphere for a period of about 10-20 minutes where a corrosion product layer of 2-5 mils thickness is formed on the surface of the body. Even if this procedure is performed in addition to the high temperature steam treatment suggested by Lipp, such a procedure does not lead to the cleaning after grinding of the glass that is required by claim 1.

There is no suggestion at all in Charles of a steam treatment after grinding and this reference does not make up for the deficiencies in Lipp. If one of skill in the art would to combine the teachings of Charles with Lipp, one would either modify the steam parameters of Lipp used during drawing and practice the Charles method once the bottle is formed. Therefore, even if Charles is combined with Lipp, the invention of claim 1 is not taught or suggested. Therefore, a *prima facie* case of obviousness is still not established when considering the teachings of Charles.

In summary, Applicants submit that a *prima facie* case of obviousness is not established by the relied-upon prior art and that the rejection of claims 1-11 should be withdrawn. Also, claims 2 and 3 are fully supported by the original description and the new matter rejection should also be withdrawn.

Accordingly, the Examiner is requested to consider the arguments made above, and pass all pending claims onto issuance.

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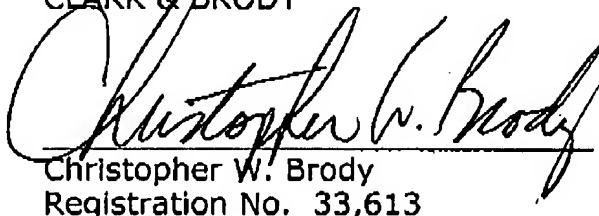
If the Examiner believes that an interview would be helpful in expediting the allowance of this application, the Examiner is requested to telephone the undersigned at 202-835-1753.

The above constitutes a complete response to all issues raised in the Office Action dated July 6, 2007.

Again, reconsideration and allowance of this application is respectfully requested.

A petition for a one month extension of time is made. Please charge the one month extension of time fee (\$120.00) and any fee deficiencies to Deposit Account No. 50-1088.

Respectfully submitted,
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